

Census Support of “The National Day of Civic Hacking”

May 15, 2013

Tim Gilbert
American Community Survey Office

Michael Ratcliffe
Geography Division

William Rankin
Research and Methodology Directorate

Outline

- **National Day of Civic Hacking background**
- American Community Survey (ACS) basics
- Geography
- Accessing ACS data products through API
- Questions

National Day of Civic Hacking

- National Day of Civic Hacking is a national event that will take place June 1-2, 2013, in cities across the nation.
- The event will leverage the expertise and entrepreneurial spirit of those outside federal, state and local government to drive meaningful, technology-based solutions for federal, state and local government.
- More information at <http://hackforchange.org/>

The Census American Community Survey Challenge Options

<http://hackforchange.org/challenge/census-american-community-challenge>

1. Develop an application that helps business and local governments learn about the socio-economic characteristics of a community to enable evidence-driven decisions that foster local economic development and/or job creation.
2. Develop an application that helps local governments plan for disaster recovery by knowing who lives and works in a community.

Specifications for Census Challenges

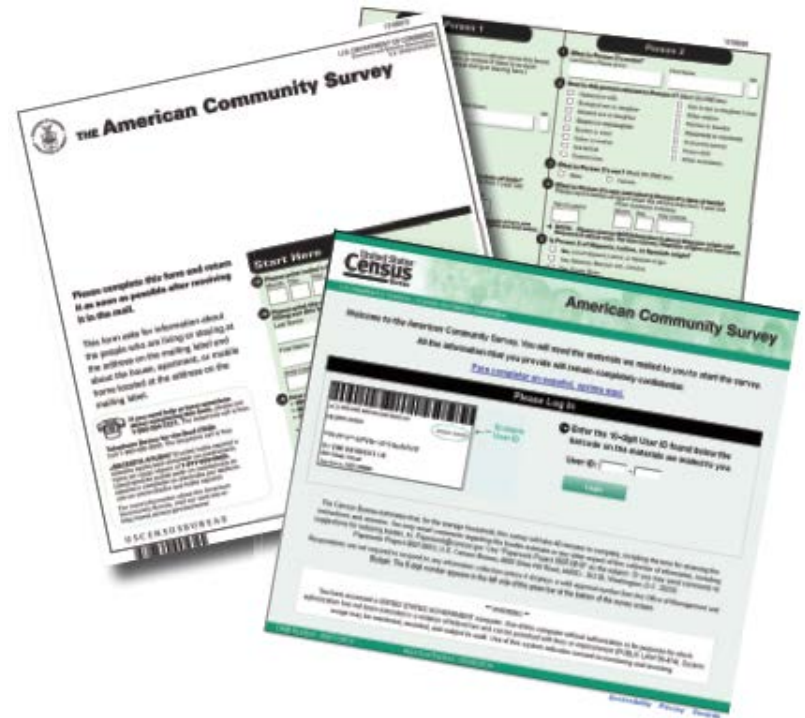
- Utilize American Community Survey (ACS) 5-Year estimates via the Census Open API through an application that leverages detailed demographic data, available for every community in the country. (Required)
- Geographic resolution should be at least to the county level and are available down to block-group. (Required)
- Mashups of these data with other data sets (public, social, consumer-facing, etc.) in ways that facilitate useful augmentation are encouraged.

Outline

- National Day of Civic Hacking background
- **American Community Survey (ACS) basics**
- Geography
- Accessing ACS data products through API
- Questions

What is the ACS?

- A large national survey that uses continuous measurement methods to produce detailed population and housing estimates each year
- Designed to produce critical information that was previously collected in the decennial census



2010 Census vs. ACS

2010 Census

- Official counts
- Population totals
- Every 10 years
- Point in time

ACS

- Sample estimates
- Population characteristics
- Yearly
- Period of time

American Community Survey

Social Characteristics



- Education
- Marital Status
- Fertility
- Grandparent Caregivers
- Veterans
- Disability Status
- Health Insurance
- Place of Birth
- Citizenship
- Year of Entry
- Language Spoken at Home
- Ancestry / Tribal Affiliation

American Community Survey

Economic Characteristics

- Income
- Benefits
- Employment Status
- Occupation
- Industry
- Commuting to Work
- Place of Work



American Community Survey

Housing Characteristics



- Housing Tenure
- Occupancy & Structure
- Housing Value
- Taxes & Insurance
- Utilities
- Mortgage/Monthly Rent



American Community Survey

Demographic Characteristics



- Sex
- Age
- Race
- Hispanic Origin

Topics Not Available in 5-Year

- New/modified questions in 2008
 - Marital history
 - Health insurance coverage
 - Service connected disability status and rating
 - Disability
- New question in 2009
 - Bachelor's field of degree
- New questions in 2013
 - Computer ownership/internet access

Availability of ACS Data Products

Estimated Population of Geographic Area	Type of ACS Estimates Released
65,000 or more	1-year, 3-year, 5-year
20,000 to 64,999	3-year, 5-year
Less than 20,000	5-year

Guidance on Making Comparisons

- Don't use overlapping estimates to measure change:
 - 2006-2010 ACS 5-year and 2007-2011 ACS 5-year share 4 years of data collection (2007-2010)
- Can compare ACS 5-year estimates with Census 2000
- Visit “Comparison Guidance” on ACS website
http://www.census.gov/acs/www/guidance_for_data_users/comparing_data/

ACS Summary File Page




http://www.census.gov/acs/www/data_documentation/summary_file/

American Community Survey

[Main](#) [About the Survey ▼](#) [Guidance for Data Users ▼](#) [Data & Documentation ▼](#) [Methodology ▼](#) [Library ▼](#)

- Data Releases
- Data Product Descriptions
- Documentation
- Geography
- Downloadable data via FTP
- Summary File**
- Public Use Microdata Sample (PUMS)
- Custom Tabulations

Summary File

 [Print](#) |  [Share this page](#) |  [Connect with us](#)

An ACS Summary File is a set of comma-delimited text files that contain all of the Detailed Tables for the ACS 1-year, 3-year or 5-year estimates. For example, the 2008 ACS 1-year Summary File includes hundreds of comma-delimited text files that are best viewed in a spreadsheet or using statistical software.

[2011](#) [2010](#) [2009](#) [2008](#) [2007](#) [2006](#) [2005](#)

Summary File Data and Documentation

2011 ACS 1-Year Estimates

[1-Year Summary File](#)
[1-Year Tech Document](#) [PDF 3.4MB]
[1-Year TableShells](#) [XLS 45MB]
[1-Year Sequence/Table Number Lookup](#) (xls, sas7bdat, or txt)

2009-2011 ACS 3-Year Estimates

[3-Year Summary File](#)
[3-Year Tech Document](#) [PDF 3.4MB]
[3-Year TableShells](#) [XLS 3.5MB]
[3-Year Sequence/Table Number Lookup](#) (xls, sas7bdat, txt)

2007-2011 ACS 5-Year Estimates

[5-Year Summary File](#)
[5-Year Tech Document](#) [PDF 3.5MB]
[5-Year TableShells](#) [XLS 3.4MB]
[5-Year Sequence/Table Number Lookup](#) (xls, sas7bdat, txt)

Detailed Tables

Examples

- B01001A-I: Sex by Age by Race and Hispanic Origin
 - B = base table
 - 01 = subject 'Age and Sex'
 - 001 = identifier of table within subject
 - A-I = table repeated for 9 race/Hispanic origin groups
- Complete explanation of numbering convention
<https://ask.census.gov/faq.php?id=5000&faqId=1687>

ACS Summary File Technical Documentation

Appendix E: Detailed Tables for the 2007-2011 ACS 5-year Estimates

Table Number	Table Title	Table Restrictions for All Geographies Except Block Groups	Table Available for Block Groups on Summary File?	Summary File Sequence Number	Summary File Starting and Ending Positions
B00001	Unweighted Sample Count Of The Population		Yes	0001	7-7
B00002	Unweighted Sample Housing Units		Yes	0001	8-8
B01001	Sex By Age		Yes	0002	7-55
B01001A	Sex By Age (White Alone)			0002	56-86
B01001B	Sex By Age (Black Or African American Alone)			0002	87-117
B01001C	Sex By Age (American Indian And Alaska Native Alone)			0002	118-148
B01001D	Sex By Age (Asian Alone)			0002	149-179
B01001E	Sex By Age (Native Hawaiian And Other Pacific Islander Alone)			0002	180-210
B01001F	Sex By Age (Some Other Race Alone)			0002	211-241
B01001G	Sex By Age (Two Or More Races)			0003	7-37
B01001H	Sex By Age (White Alone, Not Hispanic Or Latino)			0003	38-68
B01001I	Sex By Age (Hispanic Or Latino)			0003	69-99
B01002	Median Age By Sex		Yes	0003	100-102
B01002A	Median Age By Sex (White Alone)		Yes	0003	103-105
B01002B	Median Age By Sex (Black Or African American Alone)		Yes	0003	106-108
B01002C	Median Age By Sex (American Indian And Alaska Native)		Yes	0003	109-111
B01002D	Median Age By Sex (Asian Alone)		Yes	0003	112-114
B01002E	Median Age By Sex (Native Hawaiian And Other Pacific Islander)		Yes	0003	115-117

[census.gov/acs2011_5yr/summaryfile/ACS_2007_2011_SF_Tech_Doc.pdf](https://www.census.gov/acs2011_5yr/summaryfile/ACS_2007_2011_SF_Tech_Doc.pdf)

ACS Main Page

[Census.gov](#) > American Community Survey

American Community Survey

[Main](#) [About the Survey](#) [Guidance for Data Users](#) [Data & Documentation](#) [Methodology](#) [Library](#)

Question Corner for Survey Respondents

Q Why do you ask what time I leave for work?

We ask about what time you leave for work to develop statistics on commuting patterns. Commuting data are essential for planning highway improvements and developing public transportation services. [More](#).

[< Prev](#) [Next >](#)

Language Brochures

Questions and Answers about the American Community Survey in 11 languages. [pdf format]


العربية Arabic

中文 Chinese

English English

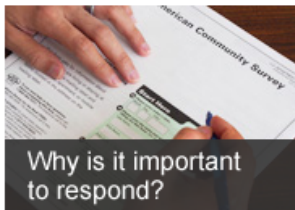
Français French

Kreyòl ayisyen Haitian Creole




What is the American Community Survey?

The American Community Survey (ACS) is an ongoing statistical survey that samples a small percentage of the population every year -- giving communities the information they need to plan investments and services. [Learn more](#).



Why is it important to respond?

Your answers to the American Community Survey help federal, state and local leaders make decisions that affect your community. Learn more about [how your responses impact your community](#).



How do I get started using ACS data?

Start learning about the ACS with three tips about the data. Find additional information about geography in the ACS, comparison guidance, and user specific handbooks. Learn more in [Guidance for Data Users](#).

Current Data Profiles

[Quick Links](#) to Nation or State level Profiles

Data by Topic

People

- Age and Sex / Aging
- Ancestry
- Disability
- Commuting to Work
- Education
- Employment
- Family/Relationships
- Health Insurance
- Income and Earnings
- Language
- Origins
- Population Change

[2011 Data Released!](#) [ACS: Measuring Dynamic Changes](#) [America's Economy Mobile App](#) [Explore the Form](#)

Explore the Form

This interactive **sample** ACS form allows you to click through the pages of the form. Select a page from the navigation panel (example shown below) and then a question number to view a description of how the information is used and how those uses translate into benefits for your community.

www.census.gov/acs

Documentation Page

Census.gov > American Community Survey > Data & Documentation: Documentation

American Community Survey

Main | About the Survey | Guidance for Data Users | **Data & Documentation** | Methodology | Library

- Data Releases
- Data Product Descriptions
- Documentation**
 - User Notes
 - Errata**
- Geography
- Downloadable data via FTP
- Summary File
- Public Use Microdata Sample (PUMS)
- Custom Tabulations

Documentation

Print | Share this page | Connect with us

The documentation below is provided in support of the American Community Survey data.

2011 | 2010 | 2009 | 2008 | 2007 | 2006 | 2005 | All

Code Lists

Detailed codes for variables that contain a large number of coded responses, such as ancestry and occupation

[2011 Code Lists](#) [PDF 225KB]

Subject Definitions

Definitions of population and housing variables to help you understand the results of the American Community Survey

[2011 Subject Definitions](#) [PDF 698KB]

Group Quarters Definitions

Definitions for classifying group living situations according to the type of housing and/or services provided

[2011 Group Quarters Definitions](#) [PDF 70KB]

Instructions for Applying Statistical Testing

Basic instructions for obtaining the ACS standard errors needed to do statistical testing

[2009-2011 & 2007-2011 Instructions for Applying Statistical Testing to ACS Multiyear Data](#) [PDF 95KB]

[2011 Instructions for Applying Statistical Testing to ACS 1-year Data](#) [PDF 57KB]

Comparison Guidance

Detailed subject/topic guidelines on comparing 2011 ACS to censuses and to 2010 ACS

[2011 Comparison Guidance](#)

Accuracy of the Data

A basic explanation of the sample design, estimation methodology, and accuracy of the data

[2011 ACS 1-year Accuracy of the Data \(US\)](#) [PDF 536KB]

[2011 PRCS 1-year Accuracy of the Data \(Puerto Rico\)](#) [PDF 527KB]

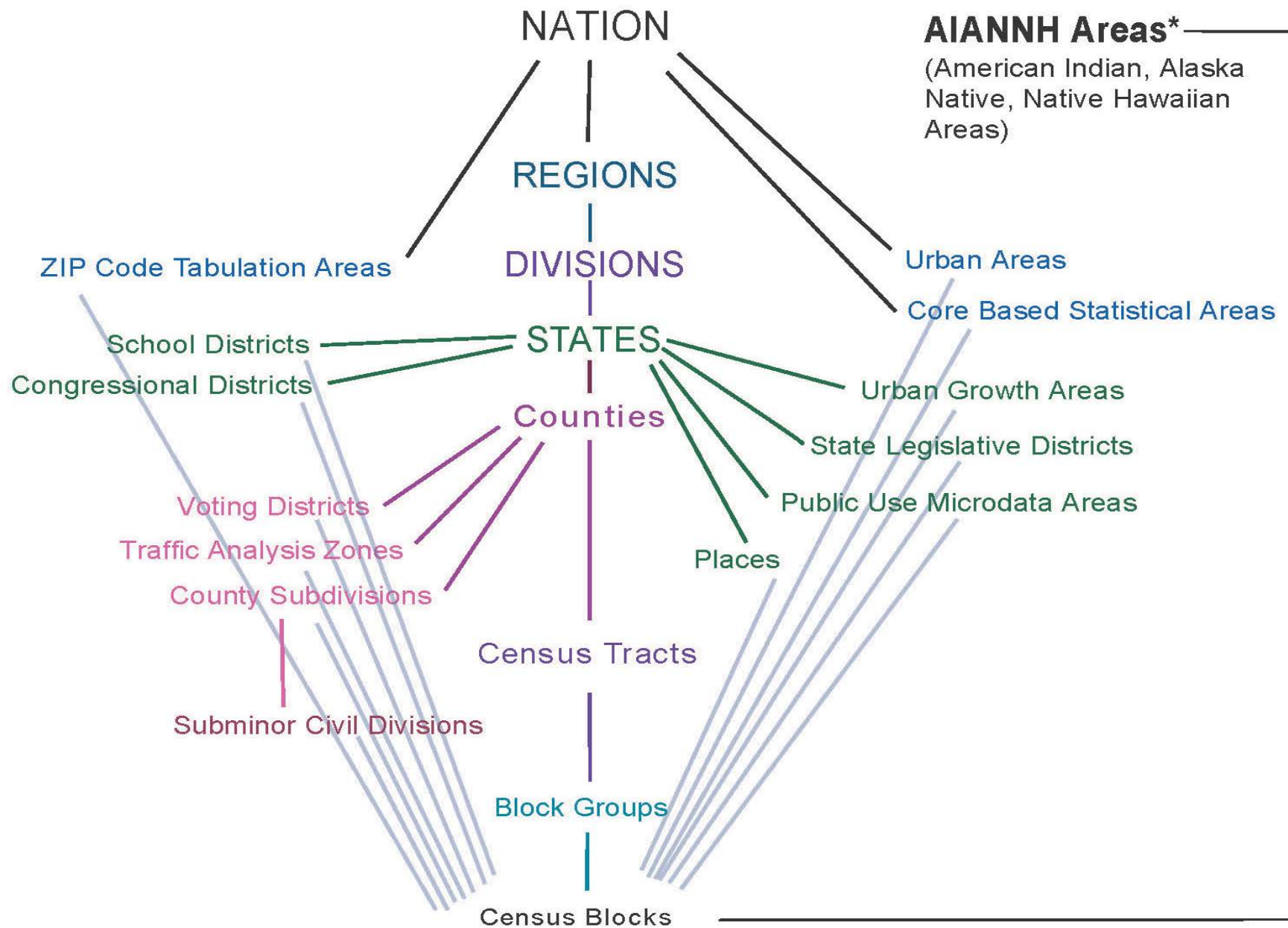
census.gov/acs/www/data_documentation/documentation_main/

Outline

- National Day of Civic Hacking background
- American Community Survey (ACS) basics
- **Geography**
- Accessing ACS data products through API
- Questions

Geographic Concepts

- Nesting relationships (or the lack of)
- Small area geography (tracts, block groups, blocks)
- Be aware of differences between definitions/boundaries and data user perceptions (such as differences in what is meant or understood as “place,” “neighborhood,” and “community”)



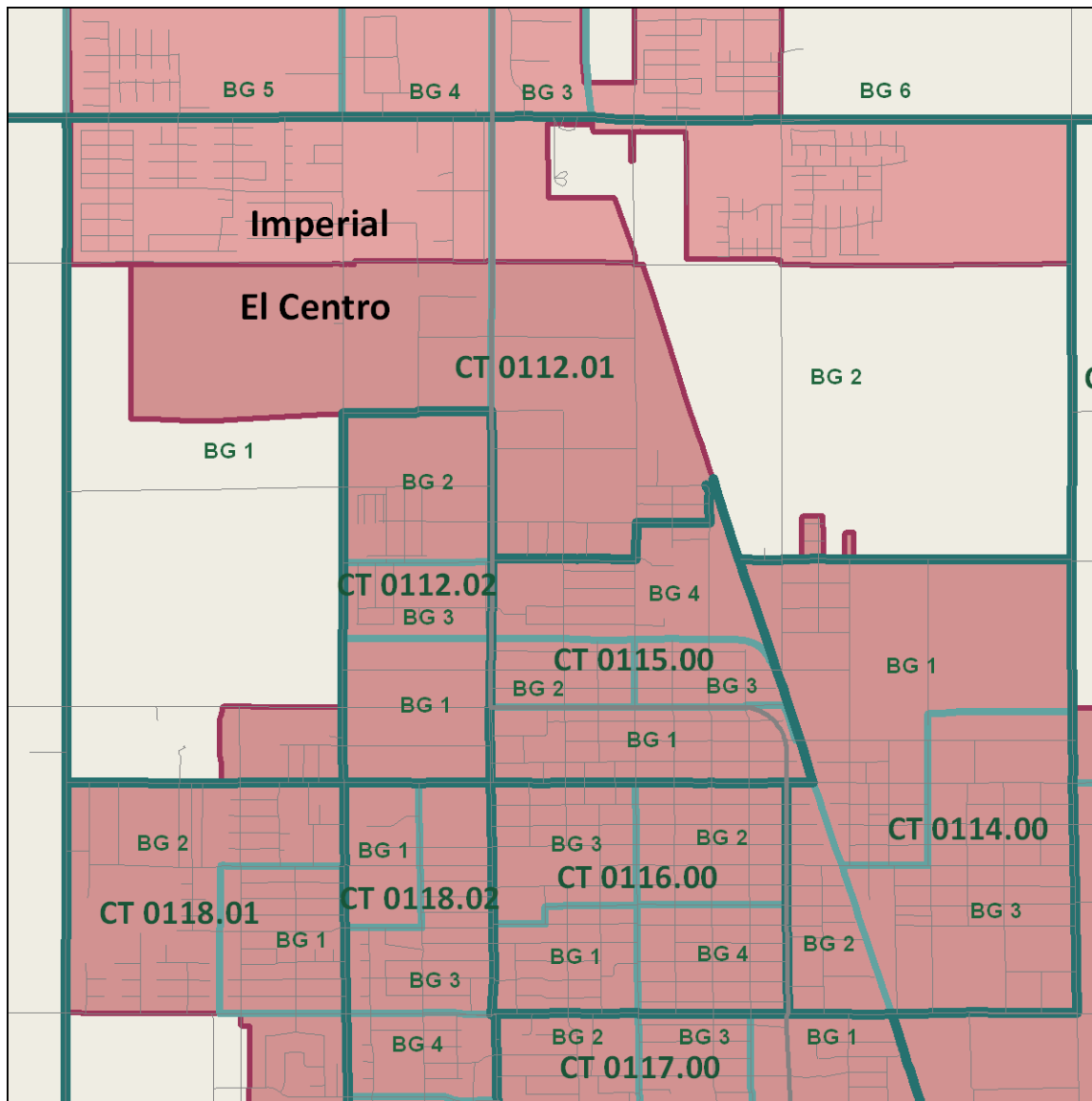
Block Groups and Census Tracts

Block Groups

- Population ranges from 600 to 3,000
- Nest within census tracts

Census Tracts

- Small, relatively permanent, consistent statistical subdivisions of a county
- Size: between 1,200 and 8,000 people; optimum: 4,000
- 4-digit basic code; 2-digit suffix. Suffix codes will change as tract splits over time
- In urban areas and some suburban areas, can be used to approximate neighborhoods



Census Tract

↳ Block Group

Imperial and El Centro, CA

- Census tracts
- Census block groups
- Imperial city
- El Centro city

0 0.25 0.5 Miles

Working with Tracts and Block Groups

Tract and block group codes:

- Must include state and county codes to uniquely identify each tract and block group:
- 060250112021
 - State = 06 (California)
 - County = 025 (Imperial)
 - Tract = 011202
 - Block Group = 1

Comparing data from 2000 to 2010?

- Census 2000 to 2010 Census Tract Relationship File

http://www.census.gov/geo/www/2010census/tract_rel/tract_rel.html

- Contains Population & Area affected by change

Census Bureau Places

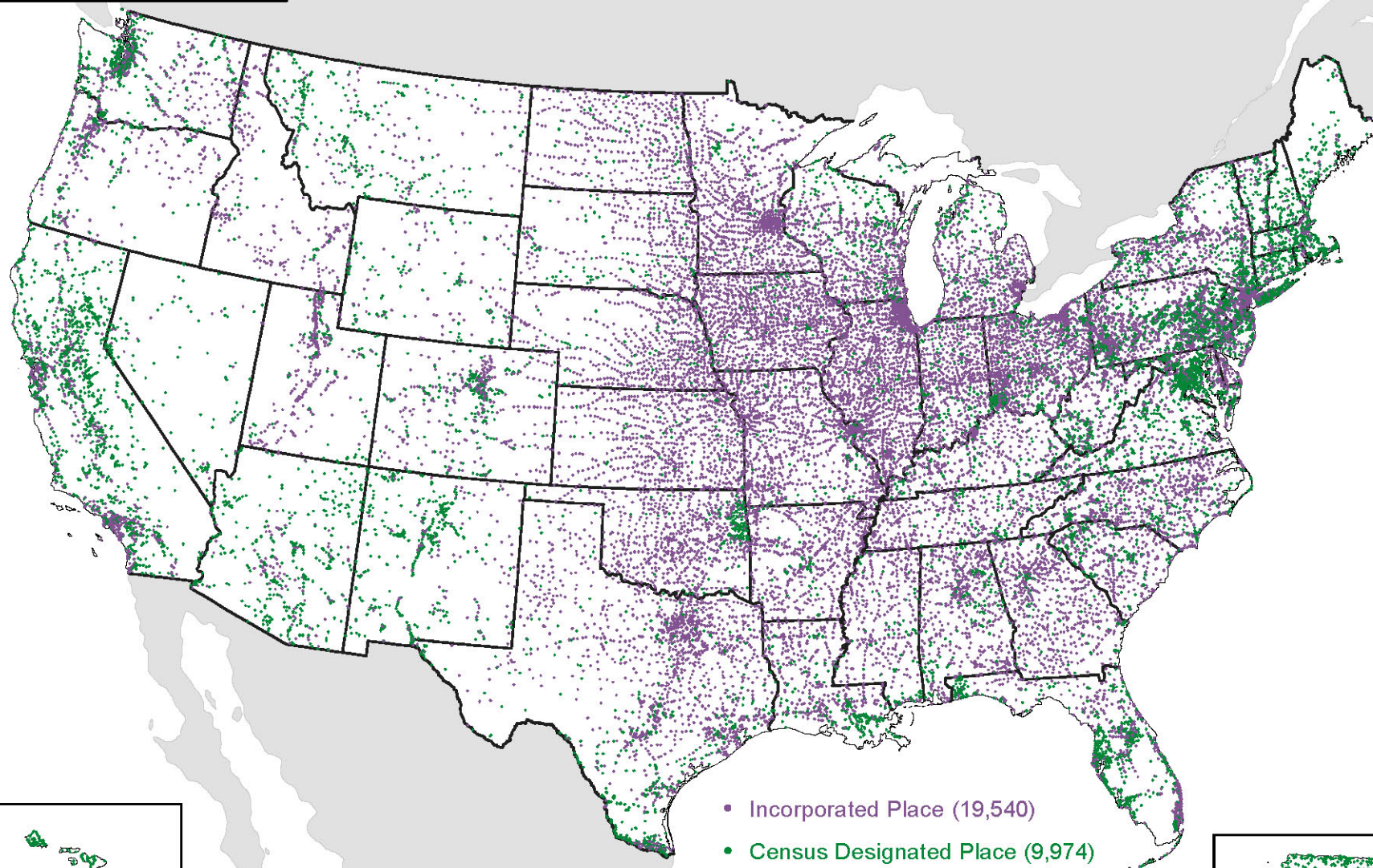
Incorporated Places

- Legally bounded entity
- Cities, boroughs, towns, or villages, depending on the state
- Over 19,000 incorporated places

Census Designated Places (CDPs)

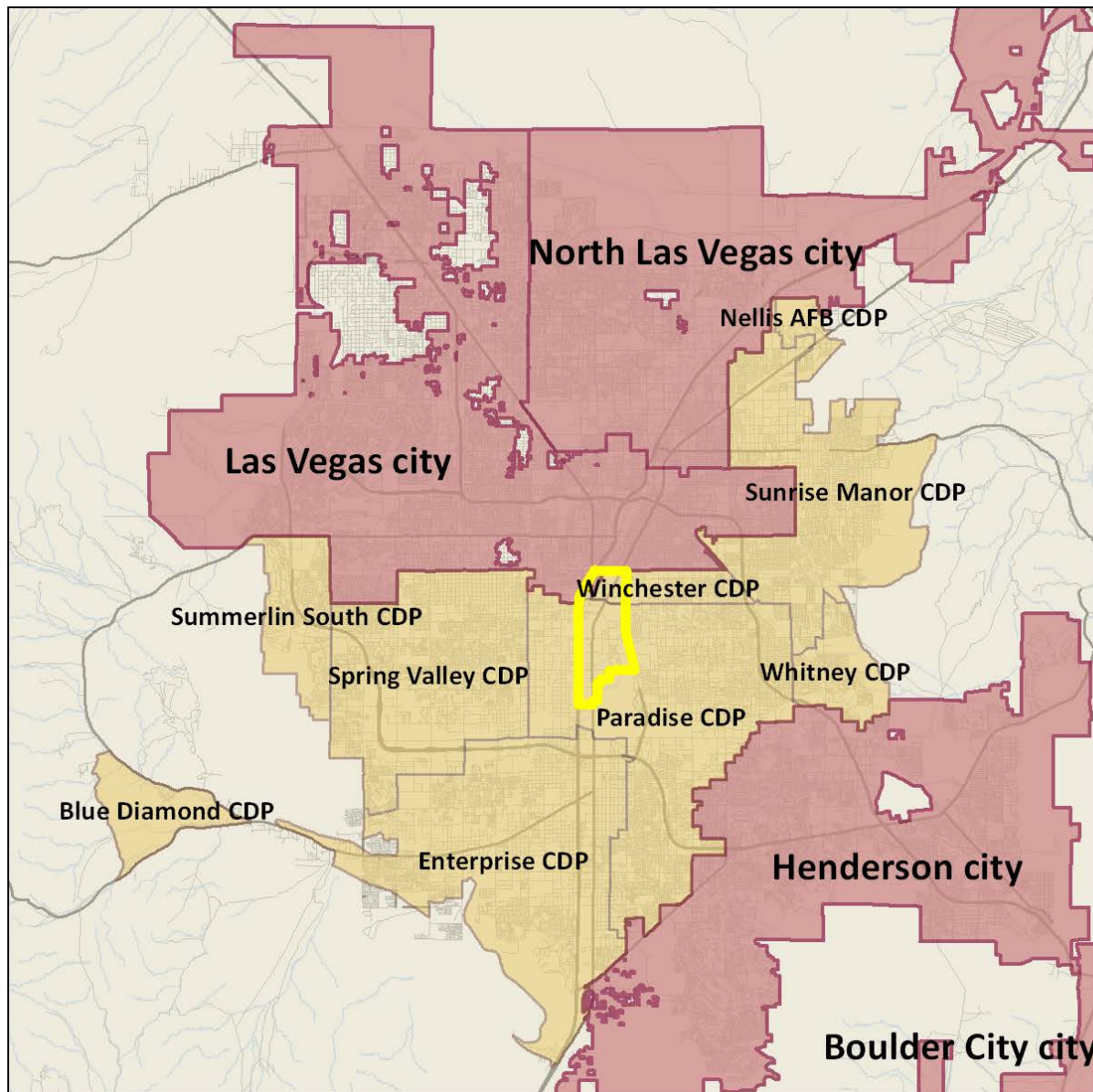
- Statistical entity
 - Unincorporated community,
 - Nearly 10,000 CDPs for 2010 Census
-
- Do not cover entirety of the US and Puerto Rico
 - Most places have less than 10,000 people
 - Places can be smaller than census tracts!

2010 Census Distribution of Places



- Incorporated Place (19,540)
- Census Designated Place (9,974)

Las Vegas Places



The Las Vegas Strip

- Incorporated Place
- Census Designated Place
- Las Vegas Strip

Census Tract 12, Block 1102

<u>Street Address</u>	<u>ZIP Code</u>
-----------------------	-----------------

1 May Road	22345
------------	--------------

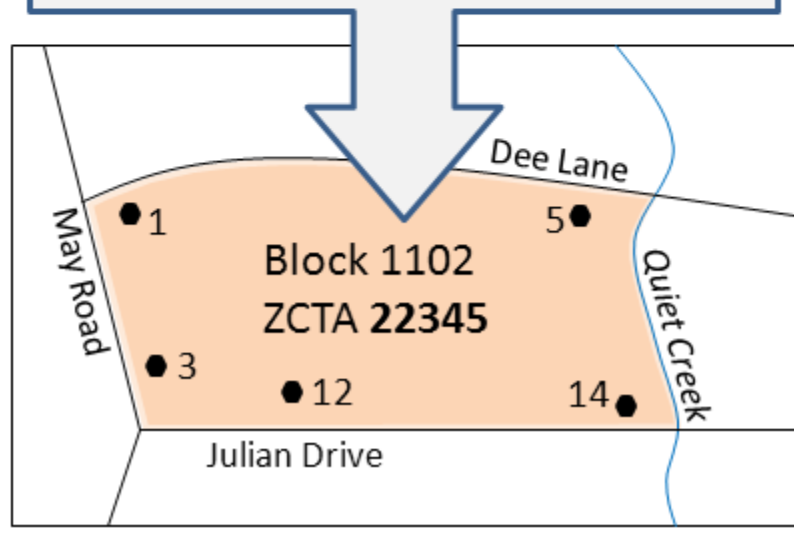
12 Julian Drive	22345
-----------------	--------------

3 May Road	22345
------------	--------------

14 Julian Drive	22345
-----------------	--------------

5 Dee Lane	22346
------------	-------

Most frequently occurring ZIP Code:
22345



ZIP Code Tabulation Areas (ZCTAs)

- Approximate USPS ZIP Code distribution for housing units
- Represent the most frequently occurring ZIP Code within an area
- A calculated geography
- Composed of whole blocks
- ZCTAs do not nest cleanly within other geography
- 2010 ZCTAs exclude large water bodies and unpopulated areas

Counties and County Equivalents

Why use data for counties?

- Well known and understood
- Boundaries are generally stable over time—easy to compare data across time
- Wide variety of statistical data available for comparison over time— from the Census Bureau and other agencies and organizations

Accessing Spatial Data

You are here: [Census.gov](#) | [Geography](#) | [Maps & Data](#) | TIGER Products

Geography

[Main](#) | [About](#) | [Maps & Data](#) | [Reference](#) | [Partnerships](#) | [Education](#) | [Research](#)

Maps & Data

[Maps & Data Main Page](#)

Maps

- [Census Data Mapper](#)
- [Reference](#)
- [Thematic](#)
- [Maps Available for Purchase](#)

Data

- [TIGER Products](#)
- [Partnership Shapefiles](#)
- [Relationship Files](#)
- [Comparability](#)
 - [Places](#)
 - [County Subdivisions](#)
- [Gazetteer Files](#)
- [Block Assignments](#)
- [Name Lookup Tables](#)
- [Tallies](#)
- [LandView](#)

TIGER Products

TIGER = Topologically Integrated Geographic Encoding and Referencing

The Census Bureau offers several file types and an application for mapping census geographic data based on data found in our MAF/TIGER database. Our products are:

- [TIGER/Line Shapefiles - New 113th Congressional District Shapefiles](#)
- [TIGER/Line Shapefiles & Geodatabases pre-joined with Demographic Data](#)
- [Cartographic Boundary Files](#)
- [KML Prototype Files](#)
- [TIGERweb](#)

Which product should I use?

Product	Best For...	File Format	Type of Data	Level of Detail	Descriptive Attributes	Vintages Available
TIGER/Line Shapefiles	Most mapping projects--this is our most comprehensive dataset . Designed for use with GIS (geographic information systems).	Shapefiles (.shp) and database files (.dbf)	Boundaries, roads, address information, water features, and more	Full detail (not generalized)	Extensive	2006 - 2012, CD 113
TIGER/Line Shapefiles & Geodatabases with Demographic Data	Demographic analysis from selected attributes from the 2010 Census, 2006-2010 ACS 5-year estimates, and 2007-2011 ACS 5-year estimates for selected geographies. Designed for use with GIS.	Shapefiles (.shp) and Geodatabases	Boundaries, Population Counts, Housing Unit Counts, 2010 Census Demographic Profile 1 attributes, 2006-2010 ACS 5-year estimates data profiles, 2007-2011 ACS 5-year estimates data profiles.	Full detail (not generalized)	Limited	2010, 2006-2010 ACS, 2007-2011 ACS
Cartographic Boundary Files	Small scale (limited detail) mapping projects clipped to shoreline. Designed for thematic mapping using GIS.	Shapefiles (.shp)	Selected boundaries	Less detail (generalized)	Limited	2010, 2000, 1990
KML Prototype Files	Viewing data or creating maps using Google Earth, Google Maps, or other platforms that use KML.	KML (.kml)	Selected boundaries	Less detail (generalized)	Limited	2010
TIGERweb	Viewing spatial data online or streaming to your mapping application.	Interactive viewer, HTML data files, plus REST and WMS map services	Boundaries, roads, address information, water features, and more	Detailed	Extensive	2012, 2010, 2012 ACS and 2011 ACS

Accessing Spatial Data: TIGERWeb WMS

U.S. Department of Commerce



[Home](#) | [Blogs](#) | [About Us](#) | [Subjects A to Z](#) | [FAQs](#) | [Help](#)

[People](#) | [Business](#) | [Geography](#) | [Data](#) | [Research](#) | [Newsroom](#)

Search

You are here: [tigerweb.geo.census.gov](#) > TIGERweb WMS

TIGERweb

[TIGERweb Applications](#) | [WMS](#) | [REST Services](#) | [Data Files](#) | [TIGERweb Geography](#) | [Contact Us](#)

Web Map Services

Note: These links will open new browser windows.

TIGERweb

[Current Geography](#)

[ACS 2012](#)

[ACS 2011](#)

[Census 2010](#)

[Physical Features](#)

TIGERweb2010

[Census 2010](#)

Find TIGERweb and other Web Map Services on: [geo.data.gov](#)

Click to sign up for updates on TIGERweb and other Census Bureau Topics

TIGERweb Web Map Service (WMS)

The [Open Geospatial Consortium, Inc.](#) (OGC) Web Map Service interface standard (WMS) provides a simple HTTP interface for requesting geo-registered map images from our geospatial database. The response to the request is one or more geo-registered map images that can be displayed in a browser or WMS client application. By gaining access to our data through our WMS, users can produce maps containing TIGERweb layers combined with layers from other servers.

Incorporate our Web Map Services into your application using the URLs below.

TIGERweb WMS URLs:

Current:

<http://tigerweb.geo.census.gov/ArcGIS/services/tigerWMS/MapServer/WMSServer>

ACS12:

http://tigerweb.geo.census.gov/ArcGIS/services/tigerWMS_ACS2012/MapServer/WMSServer

ACS11:

http://tigerweb.geo.census.gov/ArcGIS/services/tigerWMS_ACS2011/MapServer/WMSServer

Census 2010:

http://tigerweb.geo.census.gov/ArcGIS/services/tigerWMS_Census2010/MapServer/WMSServer

Physical Features:


http://tigerweb.geo.census.gov/ArcGIS/services/tigerWMS_PhysicalFeatures/MapServer/WMSServer

TIGERweb2010 WMS URL:

Census 2010:

<http://tigerweb.geo.census.gov/ArcGIS/services/Census2010/tigerWMS/MapServer/WMSServer>

To download and review the WMS specification, visit www.opengeospatial.org/standards/wms.

This symbol  indicates a link to a non-government web site. Our linking to these sites does not constitute an endorsement of any products, services or the information found on them. Once you link to another site you are subject to the policies of the new site.

Measuring America—People, Places, and Our Economy



U.S. Department of Commerce
Economics and Statistics Administration
U.S. CENSUS BUREAU

Geographic Area Boundaries

- Boundaries in 5-year ACS datasets are as of the last year of the period. Previous years' data are retabulated to the current boundary.
- Census tracts and block groups are updated prior to each census, then remain generally consistent through the decade.
- Place boundaries can change from year to year.
 - Geographic Change Notes:
<http://www.census.gov/geo/reference/boundary-changes.html>

Outline

- National Day of Civic Hacking background
- American Community Survey (ACS) basics
- Geography
- **Accessing ACS data products through API**
- Questions

<http://www.census.gov/developer>

Developers - U.S. Census Bureau - Windows Internet Explorer

http://www.census.gov/developers/#

U.S. Department of Commerce

United States Census Bureau

Home | Blogs | About Us | Subjects A to Z | FAQs | Help

People | Business | Geography | Data | Research | Newsroom

You are here: [Census.gov](#) > Census Bureau APIs

Access Data with Census APIs

Main | Data Sets | Geography | App Gallery

Developer Forum

Join our [Developer Forum](#) to submit questions, provide feedback, and share ideas to help the Census Bureau as it makes data available through APIs.

Using the API

[Request a Key Data Sets](#)

Download Data

To download full data sets, visit our [FTP Server](#)

[Print](#) | [Share this page](#) | [Connect with us](#)

Census Bureau APIs

To improve access to data and encourage innovation, the Census Bureau has begun to provide API access to some data sets. We invite developers to use these APIs, join our Developer Forum, and provide feedback to help us move forward with continued API development.

Please read the [Terms of Service](#) for using the API.

Note on URL base: Please note the the URL of the API has changed to [api.census.gov](#).

Accessing Data

Data are accessible to software developers through a stateless HTTP GET request. Up to 50 variables can be requested with a single API call. In order to access data, you will need to insert a key into the request URL in order for query results to be returned. If you do not have a key assigned to you, you will be directed to the Request a Key page where you can register for one.

- 1) Example of the request URL for 2010 Census SF1 data that has an assigned key inserted:
`http://api.census.gov/data/2010/sf1?key=b48301d897146e8f8efd9bef3c6eb1fcb864cf&get=P0010001,NAME&for=state:*`
- 2) Example of the request URL for ACS 2010 5 Year data for Total Population for California and New York:
`http://api.census.gov/data/2010/acs5?key=b48301d897146e8f8efd9bef3c6eb1fcb864cf&get=B02001_001E,NAME&for=state:06,36`

36

http://www.census.gov/developers/tos/key_request.html

Key Request - U.S. Census Bureau - Windows Internet Explorer

http://www.census.gov/developers/tos/key_request.html

File Edit View Favorites Tools Help

U.S. Department of Commerce

United States Census Bureau

Home | Blogs | About Us | Subjects A to Z | FAQs | Help

People | Business | Geography | Data | Research | Newsroom

Search

You are here: [Census.gov](#) > [Developers](#) > Key Request

Access Data with Census APIs

Main | Data Sets | Geography | App Gallery

Developer Forum

Join our [Developer Forum](#) to submit questions, provide feedback, and share ideas to help the Census Bureau as it makes data available through APIs.

Key Request

[Print](#) | [Share this page](#) | [Connect with us](#)

Request A Key

Organization Name:

Email Address:

☐ I agree to the [terms of service](#)

Submit Key Request

37

API Keys

- Used to force developers to agree to Terms of Service
- Easier to do throttling
- Allows us to contact developers of major changes, or if one developer has inordinate usage.

<http://www.census.gov/developers/data/>

The screenshot shows a Windows Internet Explorer browser window with the title bar 'Available Data - Developers - U.S. Census Bureau - Windows Internet Explorer'. The address bar displays 'http://www.census.gov/developers/data/'. The page content is divided into two main sections. On the left, under the heading 'ACS', there is a list of links: 'ACS 2011 Data Product Changes', 'ACS Technical Documentation', '2011 ACS 113th Congressional Districts API Variables [XML]', '2007-2011 ACS API Variables [XML]', '2007-2011 Examples and Supported Geography', '2006-2010 ACS API Variables [XML]', and '2006-2010 Examples and Supported Geography'. On the right, the heading 'American Community Survey 5 Year Data' is followed by a paragraph explaining the ACS: 'The American Community Survey (ACS) is an ongoing survey that provides data every year -- giving communities the current information they need to plan investments and services. The ACS covers a broad range of topics about social, economic, demographic, and housing characteristics of the U.S. population. Much of the ACS data provided on the Census Bureau's Web site are available separately by age group, race, Hispanic origin, and sex. The 5-year estimates from the ACS are "period" estimates that represent data collected over a period of time. The primary advantage of using multiyear estimates is the increased statistical reliability of the data for less populated areas and small population subgroups.' Below this paragraph, two API call examples are provided: 'The call to the API for the 2007-2011 5 Year estimates is: http://api.census.gov/data/2011/acs5?' and 'The call to the API for the 2006-2010 5 Year estimates is: http://api.census.gov/data/2010/acs5?'. At the bottom of the right section, the ACS Web site and documentation URLs are listed: 'ACS Web site: http://www.census.gov/acs/' and 'Documentation: http://www.census.gov/acs/www/data_documentation/documentation_main/'.

ACS

- [ACS 2011 Data Product Changes](#)
- [ACS Technical Documentation](#)
- [2011 ACS 113th Congressional Districts API Variables \[XML\]](#)
- [2007-2011 ACS API Variables \[XML\]](#)
- [2007-2011 Examples and Supported Geography](#)
- [2006-2010 ACS API Variables \[XML\]](#)
- [2006-2010 Examples and Supported Geography](#)

American Community Survey 5 Year Data

The American Community Survey (ACS) is an ongoing survey that provides data every year -- giving communities the current information they need to plan investments and services. The ACS covers a broad range of topics about social, economic, demographic, and housing characteristics of the U.S. population. Much of the ACS data provided on the Census Bureau's Web site are available separately by age group, race, Hispanic origin, and sex. The 5-year estimates from the ACS are "period" estimates that represent data collected over a period of time. The primary advantage of using multiyear estimates is the increased statistical reliability of the data for less populated areas and small population subgroups.

The call to the API for the 2007-2011 5 Year estimates is:

<http://api.census.gov/data/2011/acs5?>

The call to the API for the 2006-2010 5 Year estimates is:

<http://api.census.gov/data/2010/acs5?>

ACS Web site: <http://www.census.gov/acs/>
Documentation: http://www.census.gov/acs/www/data_documentation/documentation_main/

http://www.census.gov/developers/data/acs_5yr_2011_var.xml

http://www.census.gov/developers/data/acs_5yr_2011_var.xml - Windows Internet Explorer

http://www.census.gov/developers/data/acs_5yr_2011_var.xml

Live Search

http://www.census.gov/developers/data/acs_5yr_2011_var.xml

Latin) > Margin Of Error For!! Female!! 18 years and over!! Foreign born!! Not a U.S. citizen </variable>

</concept>

- <concept name="B05004. Median Age by Nativity and Citizenship Status by Sex">

<variable name="B05004_001E" concept="B05004. Median Age by Nativity and Citizenship Status by Sex">Total:</variable>

<variable name="B05004_001M" concept="B05004. Median Age by Nativity and Citizenship Status by Sex">Margin Of Error For!!Total:</variable>

<variable name="B05004_002E" concept="B05004. Median Age by Nativity and Citizenship Status by Sex">Total:!! !! Male</variable>

<variable name="B05004_002M" concept="B05004. Median Age by Nativity and Citizenship Status by Sex">Margin Of Error For!!Total:!! !!Male</variable>

<variable name="B05004_003E" concept="B05004. Median Age by Nativity and Citizenship Status by Sex">Total:!! !! Female</variable>

<variable name="B05004_003M" concept="B05004. Median Age by Nativity and Citizenship Status by Sex">Margin Of Error For!!Total:!! !!Female</variable>

<variable name="B05004_004E" concept="B05004. Median Age by Nativity and Citizenship Status by Sex">Total:!! Native:</variable>

<variable name="B05004_004M" concept="B05004. Median Age by Nativity and Citizenship Status by Sex">Margin Of Error For!!Total:!!Native:</variable>

<variable name="B05004_005E" concept="B05004. Median Age by Nativity and Citizenship Status by Sex">Total:!!Native:!! Male</variable>

<variable name="B05004_005M" concept="B05004. Median Age by Nativity and Citizenship Status by Sex">Margin Of Error For!!Total:!!Native:!!Male</variable>

<variable name="B05004_006E" concept="B05004. Median Age by Nativity and Citizenship Status by Sex">Total:!!Native:!! Female</variable>

<variable name="B05004_006M" concept="B05004. Median Age by Nativity and Citizenship Status by Sex">Margin Of Error For!!Total:!!Native:!!Female</variable>

<variable name="B05004_007E" concept="B05004. Median Age by Nativity and Citizenship Status by Sex">Total:!!Foreign born:</variable>

<variable name="B05004_007M" concept="B05004. Median Age by Nativity and Citizenship Status by Sex">Margin Of Error For!!Total:!!Foreign born:</variable>

<variable name="B05004_008E" concept="B05004. Median Age by Nativity and Citizenship Status by Sex">Total:!!Foreign born:!!Male</variable>

<variable name="B05004_008M" concept="B05004. Median Age by Nativity and Citizenship Status by Sex">Margin Of Error For!!Total:!!Foreign born:!!Male</variable>

<variable name="B05004_009E" concept="B05004. Median Age by Nativity and Citizenship Status by Sex">Total:!!Foreign born:!!Female</variable>

<variable name="B05004_009M" concept="B05004. Median Age by Nativity and Citizenship Status by Sex">Margin Of Error For!!Total:!!Foreign born:!!Female</variable>

<variable name="B05004_010E" concept="B05004. Median Age by Nativity and Citizenship Status by Sex">Total:!!Foreign born:!!Naturalized U.S. citizen:</variable>

Input Format

- Stateless HTTP Get – Restful Request
- Four parameters
 - key=[Developer Key]
 - get=[Dataset variables]
 - for=[Geographies (may be wild card)]
 - in=[Parent Geography]
- Example URL for 2011 ACS 5-year data:
`http://api.census.gov/data/2011/acs5?key=[devkey]
&get=B00001_001E&for=state:*`

http://api.census.gov/data/2011/acs5/geo.html

List of Geographies - Windows Internet Explorer

http://api.census.gov/data/2011/acs5/geo.html

Live Search

Favorites List of Geographies

040	state	http://api.census.gov/data/2011/acs5?get=B00001_001E&for=state:01 http://api.census.gov/data/2011/acs5?get=B00001_001E&for=state:*
050	state-county	http://api.census.gov/data/2011/acs5?get=B00001_001E&for=county:001&in=state:06 http://api.census.gov/data/2011/acs5?get=B00001_001E&for=county:*&in=state:06 http://api.census.gov/data/2011/acs5?get=B00001_001E&for=county:*
060	state-county-county subdivision	http://api.census.gov/data/2011/acs5?get=B00001_001E&for=county+subdivision:86690&in=state:02+county:290 http://api.census.gov/data/2011/acs5?get=B00001_001E&for=county+subdivision:*&in=state:02+county:290
140	state-county-tract	http://api.census.gov/data/2011/acs5?get=B00001_001E&for=tract:000101&in=state:02+county:170 http://api.census.gov/data/2011/acs5?get=B00001_001E&for=tract:*&in=state:02+county:170
150	state-county-tract-block group	http://api.census.gov/data/2011/acs5?get=B00001_001E&for=block+group:1&in=state:02+county:170+tract:000101 http://api.census.gov/data/2011/acs5?get=B00001_001E&for=block+group:*&in=state:02+county:170+tract:000101
		http://api.census.gov/data/2011/acs5?get=B00001_001E&for=place:00135&in=state:06

Run Test Queries

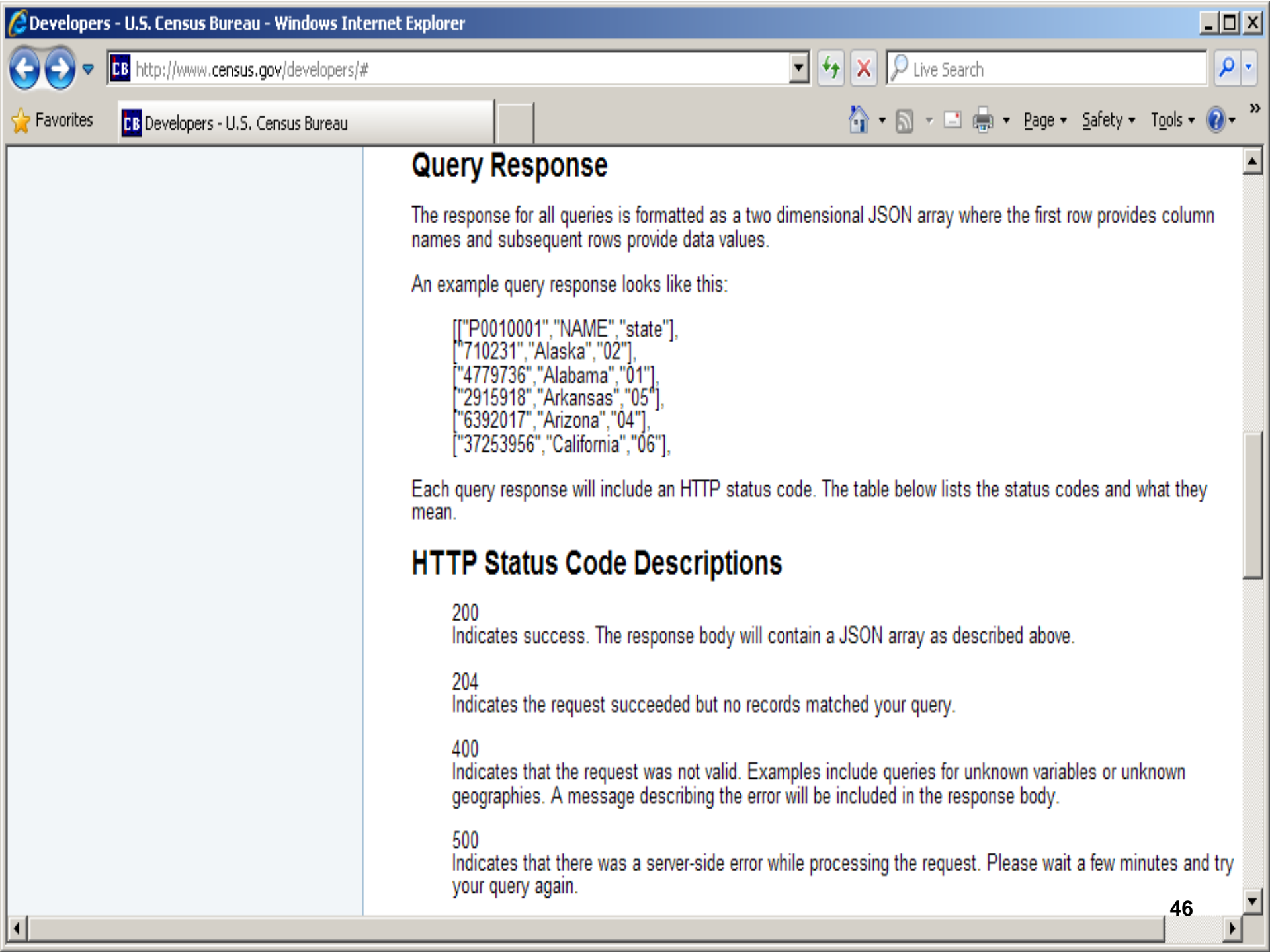
- Do it simply first by using the URL in your browser
- Remember - Use your key
- Begin with an example query using a geography type you will use
- Modify the example to use a different variable
- Modify the example to use YOUR geography

Output Format

- Support JSON
- 2-dimensional array
- List column headers once at top
- Example query response:
 - ["B00001_001E","state"],
 - ["372109","01"],
 - ["72384","02"],
 - ["392669","04"],
 - ["224988","05"],
 - ["2433404","06"],...

JSON Output Format Benefits

- Can easily remove repetitive labels.
- Smaller, tighter footprint, which is needed for Mobile applications.
- Array based storage is often faster and uses less memory than object based storage.



Query Response

The response for all queries is formatted as a two dimensional JSON array where the first row provides column names and subsequent rows provide data values.

An example query response looks like this:

```
[["P0010001", "NAME", "state"],  
["710231", "Alaska", "02"],  
["4779736", "Alabama", "01"],  
["2915918", "Arkansas", "05"],  
["6392017", "Arizona", "04"],  
["37253956", "California", "06"],
```

Each query response will include an HTTP status code. The table below lists the status codes and what they mean.

HTTP Status Code Descriptions

200

Indicates success. The response body will contain a JSON array as described above.

204

Indicates the request succeeded but no records matched your query.

400

Indicates that the request was not valid. Examples include queries for unknown variables or unknown geographies. A message describing the error will be included in the response body.

500

Indicates that there was a server-side error while processing the request. Please wait a few minutes and try your query again.

<http://apiforum.ideascale.com/>

API Developers Forum - by IdeaScale | Recent - Windows Internet Explorer

http://apiforum.ideascale.com/ Live Search

API Developers Forum - by IdeaScale | Recent

IdeaScale API Developers Forum New Features Help william.a.rankin

United States Census Bureau




Home Contact Us Privacy/Comment Policy

Search Ideas Search

API Developers Forum

A Census Collaboration Community

How does it work?

-  Users submit their ideas.
-  Our community discusses and votes for ideas.
-  The best ideas bubble up to the top.

Welcome to the API Developers Forum



This is a community for Census API Developers. To improve access to data and encourage innovation, the Census Bureau has begun to provide API access to some data sets. General API information is available at www.census.gov/developers. Use this site to submit questions, provide feedback, and share ideas to help the Census Bureau as it makes data available through APIs."

[Submit New Idea](#)

Campaigns


- All Ideas
- API Technical Discussions
- Using Data
- Application Ideas
- Feature Requests
- Website
- Application Showcase
- General Feedback
- Bugs / Problems
- Census Geography

Global Moderators

- 
- 

Browse Recent Ideas

Recent (102) Popular (102) Hot (18) In Review (0) In Progress (0) Complete (0)

 You approved APPLICATION IDEAS » Moderate Idea

You voted for this idea

High Risk/Vulnerable Individuals

To help local governments better plan for

47

Outline

- National Day of Civic Hacking background
- American Community Survey (ACS) basics
- Geography
- Accessing ACS data products through API
- **Questions**

Questions?

Has your question already been answered on our forum?

<http://apiforum.ideascale.com/>

American Community Survey:

1-800-923-8282

acso.users.support@census.gov

<https://ask.census.gov>

Geography:

geo.geography@census.gov

Geographic area concepts, criteria, codes, and attributes:

301-763-5436

Geographic products:

301-763-1128